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BUREAU OF LAND MANAGEMENT  
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In Reply Refer to:  
3120 (930 NNV)

**CERTIFIED MAIL—RETURN RECEIPT REQUESTED**

**DECISION**

:  
:  
:

December 14, 2017  
Competitive Oil and Gas  
Lease Sale

**PROTEST DENIED**

Between October 11 and 12, 2017, the Bureau of Land Management Eastern States (BLM ES) received protests timely filed on behalf of the several parties (Protesters) disputing the inclusion of five Ohio<sup>1</sup> parcels (Ohio Parcels) in the BLM Eastern States December 14, 2017 Competitive Oil and Gas Lease Sale (December Lease Sale). The BLM ES received 19 protest submissions. Two protests did not include any statement of reasons as to why they were protesting and another was a duplicate. Therefore, out of the 19 protests 16 were considered valid protests. For the reasons stated below, the protests are hereby denied.

**BACKGROUND**

The Ohio Parcels were nominated for BLM ES's consideration for leasing by interested parties in accordance with 43 CFR §3120.3. Subject Parcels include unleased federal mineral estate administered by BLM, and within the jurisdiction of BLM ES and the Northeastern States District (NSD). Following BLM ES preliminary adjudication of ownership and availability of minerals, Subject Parcels were forwarded to the NSD for review of environmental concerns, including interdisciplinary analyses and field visits, in compliance with National Environmental Policy Act (NEPA) and BLM's national policy codified in BLM manuals, handbooks, and Instruction Memorandums.

When BLM seeks to issue oil and gas leases for acquired lands managed by the U.S. Forest Service (USFS), such as those in the Wayne National Forest, the Federal Onshore Oil and Gas Leasing Reform Act (FOOGLRA) requires consent and request for pertinent lease stipulations from the USFS prior to leasing (30 U.S.C. § 226(h)). Accordingly, NSD's review included a request for USFS inspection of the proposed parcels and consent to ensure leasing of the parcels would be in conformance with the applicable Forest Plan decisions, and the receipt of consent to offer the described parcels, as further discussed below.

***National Environmental Policy Act Analysis***

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<sup>1</sup>OHES 058308, OHES 058309, OHES 058310, OHES 058311, OHES 058312.

In compliance with NEPA, BLM undertook an environmental analysis to determine whether oil and gas leasing within 40,000 acres of the Marietta Unit, Wayne National Forest could occur with no significant environmental impact, or if a more in depth environmental impact statement (EIS) would be required prior to offering of Subject Parcels. The NSD conducted site visits on October 26 and 27, 2015 within portions of the Marietta Unit, and consulted with the USFS and all applicable federal and state agencies during preparation of the NEPA document: Environmental Assessment DOI-BLM-Eastern States-0030-2016-0002-EA, Oil and Gas Leasing, Wayne National Forest, Marietta Unit of the Athens Ranger District (Marietta EA).

BLM ES, NSD, and USFS also conducted a series of public meetings. Beginning on November 1, 2015, public notices regarding these meetings appeared in local newspapers, including the Marietta Times, Athens Messenger, and the Ironton Tribune, for two consecutive weeks. The BLM also issued a press release to other news outlets on November 2, 2015, notifying the public of dates, times, and locations of the public meetings. Public meetings were held on November 17, 2015 in Marietta, November 18, 2015 in Athens, and November 19, 2015 in Ironton. The primary purpose for these public meetings was to provide information and gather public input regarding issues that the BLM should consider in this Marietta EA. At each meeting, the BLM and the USFS provided information regarding proposed oil and gas leasing activities throughout the Wayne NF, displayed maps showing locations of nominated parcels for proposed leasing and posters detailing the administrative processes associated with Expressions of Interest (EOIs), leasing & NEPA, and answered other inquiries regarding the project.

In November 2015, the BLM also created a project website for the Marietta EA to provide the public links to documents, additional project information and comment opportunities, including methods for comment submission, maps and EOI information. The website is accessible through the BLM National NEPA Register at: [https://eplanning.blm.gov/epl-front-office/eplanning/nepa/nepa\\_register.do](https://eplanning.blm.gov/epl-front-office/eplanning/nepa/nepa_register.do). On April 28, 2016, the draft Marietta EA was posted on the project website in accordance with applicable BLM Manual and Handbook 3120 Competitive Leasing and Washington Office IM No. 2010-117. As a result of the public review period, the BLM received approximately 13,700 comments by email and 480 comments by U.S. postal service or FedEx. Approximately 300 comments were identified as substantive in accordance with NEPA. Public comments were addressed by either expanding existing sections of the EA, providing clarification, or adding additional information. On October 14, 2016, BLM posted the Environmental Assessment DOI-BLM-Eastern States-0030-2016-0002-EA, Oil and Gas Leasing, Wayne National Forest, Marietta Unit of the Athens Ranger District (Marietta EA). The changes made to the draft Marietta EA are summarized in a comment matrix attached as Appendix A in the Final Marietta EA.

The Marietta EA is in conformance with the 2006 *Final Revised Land and Resource Management Plan, Wayne National Forest* and the 2012 Supplemental Information Report (2012 SIR) on oil and gas prepared by the USFS in coordination with the BLM. The Marietta EA incorporates by reference the relevant information from the 2006 Forest Plan, Final Environmental Impact Statement and the 2012 SIR, in accordance with 40 CFR 1502.21.

The final Marietta EA for the Ohio parcels describes its purpose and need as follows (Page 16):

The purpose of the Proposed Action is to support the development of oil and natural gas resources that are essential to meeting the nation's future needs for energy while

minimizing adverse effects to natural and cultural resources. The BLM minimizes adverse effects to resources by identifying appropriate lease stipulations and notices, best management practices, and mitigations. It is the policy of the BLM as mandated by various laws, including the Mineral Leasing Act of 1920, as amended (30 United States Code [USC] 181 et seq.), the Federal Land Policy and Management Act of 1976 (FLPMA), and the Energy Policy Act of 2005 to make mineral resources available for development to meet national, regional, and local needs. The oil and gas leasing program managed by the BLM encourages the sustainable development of domestic oil and gas reserves which reduces the dependence of the United States on foreign sources of energy as part of its multiple-use and sustainable yield mandate.

The leasing of federal minerals is vital to the United States as it seeks to maintain adequate domestic production of this strategic resource. Industry uses the BLM EOI process to nominate federal minerals for leasing. The Proposed Action is consistent with the BLM's mission and requirement to evaluate nominated parcels and hold quarterly competitive lease sales for available oil and gas lease parcels.

The Marietta EA considered two alternatives in detail (Page 21-29):

#### **Alternative 1- No Action Alternative**

Under the No Action Alternative, the BLM would not offer federal minerals in the Marietta Unit for oil and gas leasing, including both the parcels requested in currently pending EOIs and all other federal minerals in the Marietta Unit. Without a lease (No Action Alternative), operators would not be authorized to access federal minerals at the time of development but could develop adjacent privately owned minerals, potentially resulting in drainage of federal minerals without benefit to the government.

#### **Alternative 2- Lands Available for Leasing Alternative**

Under this alternative, the Bureau of Land Management (BLM) proposes to make available for lease up to approximately 40,000 acres of federally-owned mineral estate located in the Marietta Unit of the Athens Ranger District, Wayne National Forest, in Monroe, Noble, and Washington Counties in Ohio. This approximate acreage represents the total amount of federally-owned minerals that could be nominated and potentially be made available for leasing on the Marietta Unit. Although this EA analysis assumes that both oil and gas may be produced in the future within the Marietta Unit, natural gas is more likely to be produced.

The Marietta EA considered but eliminated from detailed analysis an additional alternative (page 29):

#### **Offer all leases with a no-surface-occupancy stipulation**

Offering all leases with a no-surface-occupancy (NSO) stipulation was suggested through public comment. However, this alternative would not fulfill the purpose and need described in Chapter 1. This alternative would unnecessarily constrain oil and gas occupancy, especially in this highly fragmented landscape, where the ability to cross federal land may be critical to enabling an operator to develop. A No Surface Occupancy

stipulation has been incorporated for all slopes in excess of 55 percent and a Controlled Surface Use stipulation applies to slopes between 35 and 55 percent.

#### **Lease minerals for vertical drilling only**

Offering all leases with a vertical drilling only stipulation was suggested through public comment. However, this alternative would not fulfill the purpose and need described in Chapter 1. A vertical drilling only stipulation would likely result in far greater surface disturbance as more wells would likely be drilled, and result in the least efficient extraction of Federal minerals.

The rule of capture is an oil and gas doctrine that allows one to produce oil and gas from their lands even though said oil and gas flows from the lands of their neighbors. In Ohio, the rule of capture entitles landowners to "offset" wells, or wells that do not need to conform with state conservation standards, when one's neighbor is draining their mineral interest. Second, a vertical drilling only alternative is equivalent to a ban on directional drilling, which in turn would be tantamount to a ban on development of the Utica, Marcellus, and other tight formations underlying the forest. Such tight formations require horizontal drilling to extract trapped oil and gas.

Through the analysis in the Marietta EA, the NSD determined whether the proposed parcels were appropriate for leasing and what mitigation measures (stipulations) should be applied to the leases for the protection of natural and cultural resources. In so doing, the NSD determined whether the 2006 FP/FEIS and 2012 SIR evaluation of various resource values, potential impacts to those resources, and appropriate mitigation measures to prevent potential impacts met the standards to be relied upon as a basis for the proposed decision. On October 14, 2016, a FONSI was signed by the NSD District Manager documenting BLM's determination that oil and gas development may occur without significant impact, and thus, no EIS is required to offer Subject Parcels for lease.

#### ***Protesters' Standing***

None of the protesters have provided to the BLM "colorable allegations of an adverse effect, supported by specific facts, set forth in an affidavit, declaration, or other statement of an affected individual, sufficient to establish a causal relationship between the approved action and the injury alleged" (183 IBLA 97, 107). Therefore the protesters allegations of all adverse effects are general claims of use of the Wayne National Forest. Nonetheless, given the BLM's directions to the public in the Sale Notice regarding submittal of protests, and the lack of specific agency guidance for adjudicating when an individual or group may have standing to protest lease parcels, the BLM has decided to provide more information about the specific concerns of the Protesters. However, the BLM does so with the reservation that the Protesters may not have standing to bring an appeal of this protest decision to the IBLA.

### **DISCUSSION**

The Protesters presented several statements as to why they felt the draft Marietta EA may have been inadequate or lacking. Their statements included concerns such as: *water quality, water withdrawals, water disposal and injection, impacts of opening up private minerals & private surface development, air quality, noise & traffic, recreation, wildlife/T&E, hydraulic fracturing, leaks & spills, public health, seismic risk, climate change, cultural resources, not doing an EIS, erosion,*

*not enough analysis/EA and public input.* However, the BLM feels it addressed these concerns in its Marietta EA by including mitigation, best management practices and respective stipulations from both the USFS and the BLM itself, in case a leasing parcel or parcels does lead to oil and gas exploration and development in the future:

### ***Water Quality***

The Marietta EA adequately analyzes the current state, and potential impacts, on water resources related to the proposed action. The Marietta EA states (Page 105):

While the act of leasing federal minerals would produce no impacts to surface water quality, subsequent exploration and development of the lease parcels have the potential to produce impacts. The potential effects to surface water from reasonably foreseeable mineral development include sediment loading of stream channels due to the erosion associated with site development or operational transport and introduction of pollutants, toxic chemicals, sediment or debris, via spills and releases to surface water from oil/produced water treatment, storage tanks, handling and sanitary facilities or oil/produced water transportation mediums (trucks or pipelines).

Specifically, the Marietta EA addresses concerns regarding withdrawals of water for oil and gas operations (Page 106):

The BLM and USFS would not approve water withdrawals that would draw down a surface waterbody to the extent that aquatic life would be measurably adversely impacted, for example, by dewatering a stream enough to entrap fish or expose mussels to dry conditions in a stream that would normally have perennial flow.

As to local aquifers and groundwater, the Marietta EA states (Page 105):

Local aquifers (within the Marietta Unit) do not yield sufficient water to support industrial activities within the Marietta Unit. Therefore, the likelihood that the proposed leasing action and potential future mineral development would affect groundwater quantity is negligible.

However, the Marietta EA does acknowledge potential environmental concerns to water resources, as well as mitigating measures (Page 106):

Future mineral development activities would pose some risk of accidental spills of drilling fluids, produced water, and other chemicals (see also Section 4.7, Wastes, Hazardous or Solid). This risk would be minimized by the requirement, described in the 2012 SIR, for operators to use tanks, instead of open pits, to hold all fluids other than fresh water... The only areas where a spill would pose an unacceptable risk to groundwater quality are designated wellhead protection areas or certain locations within the Ohio River and Little Muskingum River floodplains (Thompson, 2012). Other locations throughout the Marietta Unit tend to have low groundwater pollution potential due to low hydraulic conductivity and depths of groundwater (around 200 feet or less from the surface). Drilling to a production zone that is below a potable water-bearing formation poses the risk of allowing brine and other chemicals to migrate up into a potable water zone. This risk is mitigated in

federal wells by casing and cementing requirements in Onshore Oil and Gas Order Number 2.

### ***Water Withdrawals***

The Marietta EA adequately analyzes the current state, and potential impacts, on water withdrawals related to the proposed action. The Marietta EA states (Page 63):

Because of the low production rates of groundwater, it is not likely that a proposal would ever be made to utilize groundwater from the WNF for HVHF. Nevertheless, a Forest-wide guideline directs the WNF to control the withdrawal of water.

In addition, the BLM states the following (Page 106):

“The BLM and USFS would not approve water withdrawals that would draw down a surface waterbody to the extent that aquatic life would be measurably adversely impacted, for example, by dewatering a stream enough to entrap fish or expose mussels to dry conditions in a stream that would normally have perennial flow.

BLM does recognize that, as an agency, its federal authority has some limitations for minerals developed over private surface. However, the EA discloses the state regulations that would oversee this activity, while providing more detailed information in Appendix C of the EA (Page 206):

“ODNR, Division of Soil and Water Resources (ODNR-DSWR) provides oversight for any instate water withdrawals for oil and gas operations. ORC Section 1521.16 requires registration of a water withdrawal facility, or combination of facilities, capable of withdrawing water at greater than 100,000 gallons of water per day. This registration requirement is triggered by capability of withdrawal, not actual withdrawal. Ohio has also enacted other specific measures to reduce effects of water withdrawals for the purpose of oil and gas operations. For example, the Great Lakes-St. Lawrence River Basin Water Resources Compact (Great Lakes Compact) is a binding agreement prohibiting any new or increased diversions of any amount of water out of the Lake Erie Basin. OEPA regulates water withdrawals for oil and gas operations from other public water supplies according to the requirements found in OAC 3745-95. These requirements mainly address containment devices to prevent backflow. As discussed above, USACE 404 and OEPA-DSW 401 authorizations may be required for pipe construction impacting waterways. Water withdrawals from other sources must be reported to ODNR, and are handled on case-by-case basis.”

### ***Water Disposal & Injection Wells***

The Marietta EA adequately analyzes the current state, and potential impacts, on water disposals & injection wells related to the proposed action. The Marietta EA states (Page 65):

“Any wastewater that originates from oil and gas operations would be considered non-federal and so disposal would not be allowed on Wayne National Forest lands (including the roads under jurisdiction of the WNF).”

In addition, Onshore Oil and Gas Orders are a way in which BLM implements and supplements the oil and gas regulations found at 43 CFR 3160 for conducting oil and gas operations on federal lands, particularly at the APD stage. Order No. 7 - Disposal of Produced Waters: This Order provides the methods and approvals necessary to dispose of produced water associated with oil and gas operations.

BLM does recognize that, as an agency, its federal authority has some limitations for minerals developed over private surface. However, the EA discloses the state regulations that would oversee this activity, while providing more detailed information in Appendix C of the EA (Page 65):

The Ohio Revised Code only allows for four different disposal methods of fluids associated with oil and gas operations: injection, surface application (on roads only, and only when permitted by the authority with jurisdiction over the road), enhanced recovery (reuse of the fluids in other wells) or other methods to test new technologies and methodologies (ORC 1509.22(C)(1)).

### ***Impacts of opening up private minerals & private surface development***

Protesters argue that “leasing federal minerals would open up substantial private minerals and private surface for development, and is geared towards that end, but BLM failed to clearly disclose these effects” (page 5). However, BLM addresses the potential opening up private minerals for oil and gas development throughout the Marietta EA. The Marietta EA states (Page 121):

Leasing federal minerals within the Marietta Unit may lead to additional future mineral development on private land and private minerals within the area. Although federal oversight of mineral development on federal land/federal minerals is more stringent than on private land/private minerals, there are numerous state laws and regulations in place. Appendix C of this EA summarizes the laws and regulations that govern mineral development activities on private land in Ohio.

Also, the Marietta EA describes the inclusion of private mineral development analysis in the Reasonable Foreseeable Development Scenario RFDS (Page 24)

...this EA analysis covers the potential impacts of future oil and gas development on both the USFS lands and on adjacent private lands within the Marietta Unit to allow for maximum NEPA flexibility and coverage in case conditions should change in the future.

Furthermore, the Marietta EA explicitly states that existing private development is considered in the cumulative analysis (Page 121):

...the cumulative effects analysis also considers recent past, ongoing, and reasonably foreseeable mineral development (private and federal) within the Marietta Unit. As of 2015, there were 285 federal wells in Washington County, 117 federal wells in Monroe County, and none in Noble County. There were a total of 790 active wells on private lands in the Wayne National Forest.

Addressing concerns about potential environmental impact of private development, the Marietta EA states:

...if some development were to occur on privately owned surface federal and state regulations do exist in order to address any potential concerns regarding contamination or spills. However, if the development occurs on private lands and pipelines or well development reaches federal minerals, the BLM would ensure that the construction of such well is in compliance with all applicable safety standards.

Furthermore, the Marietta EA responds to comments regarding private development as indicated in the Public Comment Matrix (Appendix A, Page 161), and further elaborated upon in Appendix C (Page 195).

### *Air Quality*

The Marietta EA adequately address potential environmental impacts to air quality. As to the ability to identify site-specific air quality concerns, the Marietta EA states (Page 94):

Further NEPA analysis would be conducted at the [Application for Permit to Drill (APD)] stage, when specific development details with which to analyze potential GHG emissions are likely to be known.

The Marietta EA establishes the following mitigating measures for potential impacts to air quality identified during the APD stage (Page 95):

The BLM encourages industry to incorporate and implement BMPs to reduce impacts to air quality through reduction of emissions, surface disturbances, and dust from field production and operations...Additionally, the BLM encourages oil and natural gas companies to adopt proven, cost-effective technologies and practices that improve operational efficiency and reduce natural gas emissions. In October 2012, USEPA promulgated air quality regulations for completion of hydraulically fractured gas wells (USEPA, 2015b). These rules required air pollution mitigation measures that reduced the emissions of volatile organic compounds during gas well completions. Mitigation included utilizing a process known as a “green” completion in which natural gas brought up during flowback is captured in tanks rather than in open fluid pits. Among other measures to reduce emissions include the USEPA’s Natural Gas STAR program. The USEPA U.S. inventory data shows that industry’s implementation of BMPs proposed by the program has reduced emissions from oil and gas exploration and development (USEPA, 2016i).

The Marietta adequately addresses climate change and emissions. Impacts resulting from direct and indirect effects of oil and gas development are discussed as follows (Page 84):

...the effects of climate change observed to date and projected to occur in the future include more frequent and intense heat waves, longer fire seasons and more severe wildfires, degraded air quality, more heavy downpours and flooding, increased drought, greater sea-level rise, more intense storms, harm to water resources, harm to agriculture, ocean acidification, and harm to wildlife and ecosystems.

The Marietta EA included quantitative analyses of greenhouse gases (GHG) impacts. Best available science was used to approach the greenhouse gas emissions calculation for the Marietta



EA: "Life cycle greenhouse gas emissions of Marcellus shale gas (and associated supplementary data) (Jiang et al., 2011) was used as the basis for estimating GHG emissions from the preproduction phase of potential oil and gas development in the Marietta Unit" (Page 85). As it relates to Ohio, the Marietta EA states that: "Ohio's Natural Gas and Crude Oil Exploration and Production Industry and Emerging Utica Gas Formation Economic Impact Study estimated that the average amount of natural gas per the life of a natural gas well is 5 billion cubic feet (bcf) (Kleinhenz & Associates 2011)" (Page 90). "Using...U.S. EPA combustion emission factors for natural gas (see Appendix E) allowed BLM to compare combustion emissions to those calculated for this EA" (Page 93).

The Marietta EA also discloses calculation assumptions (Page 87):

Disturbance for wellpad approximately 5 acres, approximately 6 wells per wellpad (per the 2006 RFDS), approximately 25 years for the lifetime of a well, use of horizontal drilling and hydraulic fracturing.

Based on the location of the proposed lease, geological formations, and similar construction techniques that would be used if future production was to occur in the Marietta Unit, the preproduction data gleaned from Jiang et al., 2011, is applicable to possible foreseeable mineral development within the Wayne National Forest.

As to post-production impacts, the Marietta EA states (Page 89):

...emissions associated with the post-production phase of development were calculated based on reasonable assumptions and standard emissions factors. Mean emission factors used in this EA for production of natural gas, processing, transmission and storage, distribution, and combustion were provided by Venkatesh et.al. (2011).

The uncertainties regarding development are also discussed in the Marietta EA (Page 93):

There are many factors that affect the potential for GHG emissions estimates at the leasing stage: a lease may not be purchased, so no GHG emissions would be expected; a lease may be purchased but never explored, so again there would be no GHG emissions; a lease may be purchased and an exploratory well drilled that showed no development potential, so minimal GHG emissions would occur; or a lease may be purchased, explored, and developed. If developed there are notable differences in the potential for emissions related to a wide variety of variables, including the production potential of the well, economic considerations, regulatory considerations, and operator dynamics, to name a few.

The methodology was included step by step within the Marietta EA in pages 90-92.

Regarding the use of the Global Warming Potential (GWPs) values the EA discloses in one of the incorporated tables (Page 205):

While EPA recognizes that Fifth Assessment Report (AR5) GWPs have been published, in an effort to ensure consistency and comparability of GHG data between EPA's voluntary and non-voluntary GHG reporting programs (e.g. GHG Reporting Program and National Inventory), EPA recommends the use of AR4 GWPs. The United States and other developed countries to the UNFCCC have agreed to submit annual inventories in 2015

and future years to the UNFCCC using GWP values from AR4, which will replace the current use of SAR GWP values. Utilizing AR4 GWPs improves EPA's ability to analyze corporate, national, and sub-national GHG data consistently, enhances communication of GHG information between programs, and gives outside stakeholders a consistent, predictable set of GWPs to avoid confusion and additional burden.

### ***Noise & Traffic***

The Marietta EA adequately addresses solutions for noise from possible future oil and gas development. As to mitigating measures for potential impacts to noise resources, the Marietta EA states (Page 113):

There are various measures that can be used to minimize the potential impacts of noise, such as using mufflers on equipment, taking advantage of topography when siting roads and other facilities, and using sound barriers. In addition, various notifications and stipulations may apply for noise control, for example, to coincide with periods when impacts to wildlife species would be the lowest, or to utilize specific noise dampening technologies. Also, the WNF can include measures related to muffling of noise if the well site is located in close proximity to private homes and/or populated areas or to or their habitat. Furthermore, the WNF can strive to schedule mechanized activities along travel ways, use areas, and water bodies to occur during low-use periods to alleviate noise and visual impacts.

The Marietta EA adequately addresses solutions for traffic from possible future oil and gas development. As to mitigating measures for potential impacts to traffic, the Marietta EA states (Page 111):

"Although future mineral development would result in some impacts to the existing transportation network, adhering to required federal, state, and local laws and regulations (such as speed limits and safety standards for operating heavy vehicles) would minimize potential roadway and traffic impacts in the Marietta Unit. The USFS also addresses infrastructure activities and mitigations relating to traffic and roads from the oil and gas development in the 2006 Forest Plan and EIS and 2012 SIR (see page 77 in U.S. USFS, 2012)."

### ***Recreation***

The Marietta EA adequately addresses solutions for recreation from possible future oil and gas development. As to mitigating measures to potential impacts on noise resources (Page 112):

If future development occurs, the BLM, in consultation with the Ohio DNR, WNF, operators, and other parties, would seek to minimize auditory or visual impacts on recreational resources through simple, reasonable measures, such as restricting construction to certain times of year or requiring the preservation of plants that provide visual screening.

### ***Wildlife/Threatened and Endangered Species***

The Marietta EA adequately addresses wildlife and special status species. The Marietta EA states that there are no documented hibernacula for the Indiana bat within the Marietta Unit in Ohio (Page 48):

The WNF contains one documented hibernaculum, and it is not on the Marietta Unit...the Athens and Ironton Units most likely contain the most heavily concentrated populations of Indiana bat, based on thorough surveys conducted previously throughout the WNF by the USFWS.

For the Northern Long Eared Bat the Marietta EA clearly uses the 4(d) rule of the USFWS which states that in areas of the bat's range that may be affected by white-nose syndrome, incidental take caused by some tree removal and tree-clearing activities, does not need to be prohibited to conserve the northern long-eared bat when conservation measures that protect the bat's most vulnerable life stages are taken (Page 48):

The USFS activities fall under the 4(d) rule that exempts incidental take of northern long-eared bat, provided those activities adhere to certain, basic conservation measures to protect hibernacula and roost trees.

For Aquatic Species such as mussels the Marietta EA states (Page 49):

Fanshell and pink mucket pearlymussel are not documented anywhere on the WNF... Sheepsnose and snuffbox may be present on waterways within the WNF and were not included in the 2005 BO, but the USFWS concurred with the USFS that the 2012 SIR did not need any update regarding these species because neither of these species would be affected by oil and gas activities on the national forest.

### ***Hydraulic Fracturing***

The Marietta EA adequately addresses hydraulic fracturing, associated wastes and potential public health implications. The analysis is in accordance with the U.S. EPA June 2015 report "Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources" which states 'From our assessment, we conclude there are above and below ground mechanisms by which hydraulic fracturing activities have the potential to impact drinking water resources. These mechanisms include water withdrawals in times of, or in areas with, low water availability; spill of hydraulic fracturing fluids and produced water; fracturing directly into underground drinking water resources; below ground migration of liquids and gases; and inadequate treatment and discharge of wastewater. The BLM did not find evidence that these mechanisms have led to widespread, systemic impacts on drinking water resources in the United States. Of the potential mechanisms identified in this report, we found specific instances where one or more mechanisms led to impacts on drinking water resources, including contamination of drinking water wells. The number of identified cases, however, was small compared to the number of hydraulically fractured wells.

As described in the EA, there are numerous mechanisms in place to minimize potential adverse effects. Additional analysis would be conducted at the APD stage with regard to hydraulic

fracturing, impacts to water resources, and public health and safety associated with oil and gas development in the Marietta Unit.

### ***Leaks & Spills***

The Marietta EA adequately addresses leaks and spills. The Marietta EA states that the USFS requires operators to “conduct activities and maintain equipment to prevent the discharge of oil or brine onto the ground or into surface waters” (page 105).

As to mitigating measures for potential impacts related to leaks and spills, the Marietta EA states (Page 113):

This risk would be minimized by the requirement, described in the 2012 SIR, for operators to use tanks, instead of open pits, to hold all fluids other than fresh water. Since tanks are smaller than typical open pits, a spill from a tank would produce less of a hazard than an accidental discharge from a pit.

In addition, operators would prepare a Spill Prevention, Control, and Countermeasure (SPCC) plan to ensure hazardous and non-hazardous substances are properly managed, which is disclosed in detail in Appendix C of the EA (Page 202):

As stated, Ohio does not allow long term storage of production or waste from oil and gas operations. However, USEPA places the following requirement when an operator’s total above ground storage capacity exceeds 1,320 gallons or more: (1) provide adequate secondary containment for storage and transfer areas to contain releases; and (2) preparing a written SPCC plan. The trigger for these requirements to be implemented is the storage capacity, not the actual amount stored. ORC 3745.50 requires reporting of spills or releases of petroleum products to local state and/or federal authorities if exceeding reportable quantities. Reportable quantities include any amount of petroleum that causes a film/sheen on a waterway, or any spill or release to the environment (not contained on the spiller’s property) of 25 gallons or more. Reporting is encouraged if the amount is unknown.

### ***Public Health***

The Marietta EA adequately addresses human health and safety in relation to fracking in Sections 3.8 & 4.8. Eastern States recognizes the public’s concern regarding health issues related to possible future hydraulic fracturing, and therefore decided to compile a new section addressing this topic. The Marietta EA states (Pages 108-109):

There would be no direct impacts to public health and safety from leasing, since leasing is an administrative action...BLM acknowledges that if the leasing area was to be developed in the future, environmental hazards of...oil and gas may produce some effects to public health or safety if not properly managed...communities or workforce residing or working near the potential development sites may be at higher risk for accidental spills, fugitive emissions or releases of gas from a future well bore. The level of effect would depend on

the product released or spilled, level of activity, density of development, technological and safety controls/regulations in place, and the receptors' susceptibility to risk.

.... As of 2014, most studies addressing the public health implications of oil and gas development have been either predictive and/or descriptive hypothesis generating. The few analytic studies are preliminary and do not provide enough evidence to conclusively determine if oil and gas operations directly result in health effects in nearby populations. Existing studies have provided evidence that hazards are inherently present in and around oil and gas operations and populations can be exposed to these hazards if safety measures are not implemented. People living near oil and gas operations have reported that oil and gas operations affect their health and quality of life, particularly through traffic accidents, air and water pollution, and social disruption expressed as psychosocial stress (University of Colorado at Boulder, 2015). Some short term health effects reported by people living near oil and gas operations include irritation of the eyes, nose, throat, lungs or skin, or other symptoms like headache, dizziness or nausea and vomiting. Some also report sleep disturbance or anxiety associated with noise or light effects from mineral development activities. There is very little information about long term health effects in people living near oil and gas operations.

.... Numerous scientific studies have linked air pollution to a variety of health problems including: (1) respiratory and cardiovascular disease, (2) decreased lung function, (3) increased frequency and severity of respiratory symptoms such as difficulty breathing and coughing, (4) increased susceptibility to respiratory infections, (5) effects on the nervous system, including the brain, such as IQ loss and impacts on learning, memory, and behavior, (6) cancer, and (7) premature death. Sensitive individuals or those at high risk appear to be at even greater risk for air pollution-related health effects, for example, those with pre-existing heart and lung diseases (e.g., heart failure/ischemic heart disease, asthma, emphysema, and chronic bronchitis), diabetics, older adults, and children. Future mineral development operations within the Marietta Unit that would violate a state and/or federal air quality standard would not be approved.

### ***Seismic Risk***

The Marietta EA adequately addresses seismic risks and other geological hazards. Seismic risks are identified and as discussed as follows (Page 102):

...potential geologic hazards may result from future development and production operations. Induced seismic activity, seismic events attributable to human activities, may include landslides or earthquakes. Landslides involve the mass movement of earth materials down slopes and can include debris flows, soil creep and slumping of large blocks of material. Earthquakes occur when energy is released due to blocks of the earth's crust moving along areas of weakness of faults.

The Marietta EA also cites the best available science in regards to the source of possible geologic hazards (Page 102):

A study conducted by the National Academy of Sciences examined the issue of induced seismic activity from energy development. As a result of the study, they found that: (1) the process of hydraulic fracturing a well as presently implemented for shale gas recovery does not pose a high risk for inducing felt seismic events; and (2) injection for disposal of wastewater derived from energy technologies into the subsurface does pose some risk for induced seismicity, but very few events have been documented over the past several decades relative to the large number of disposal wells in operation (National Academy of Sciences, 2012).

.... On April 11, 2012, the Deputy Secretary of the United States Department of the Interior, David Hayes, stated that scientists have been investigating the recent increase in the number of earthquakes in the United States to determine whether there is scientific evidence of a link between unconventional oil and gas production and seismic activity. The preliminary findings did not suggest that HF caused the increased rate of earthquakes. Instead, "at some locations the increase in seismicity coincides[d] with the injection of wastewater in deep disposal wells" (Hayes, D. J., 2012).

The Marietta EA discusses the mitigating measures that will negate these seismic concerns (Page 55):

To ensure that oil and gas exploration and development is conducted in a safe and environmentally sound manner, the BLM approves and regulates all drilling and completion operations, and related surface disturbance on federal public lands. Prior to approving a Notice of Intent for Geophysical Exploration (NOI) or APD, the BLM identifies all potential subsurface formations that may be penetrated by the wellbore. This includes all groundwater aquifers and any geologic ones that would present potential safety or health risks that may need special protection during drilling. Once the geologic analysis is completed, the BLM reviews the proposed casing and cementing programs to ensure the well construction design is adequate to protect the surface and subsurface environment, including the potential risks identified by the geologist and all known or anticipated zones with potential risks.

The Marietta EA also discloses how the state of Ohio ensures additional protection against seismic risks (Page 55):

The ODNR now requires operators drilling within three miles of a known fault or area of seismic activity greater than 2.0 to install seismometers. If seismic activity above 1.0 is detected, work must pause while the seismic activity is investigated, and work must stop if the investigation reveals a probable connection to the drilling operation. This regulation would affect drilling primarily in the southern half of the Marietta Unit, since the known and inferred faults and seismic areas are generally in Washington County or near the Washington-Monroe County line (Ohio Department of Natural Resources, 2014)

## *Climate Change*

The Marietta adequately addresses climate change and emissions. Impacts resulting from direct and indirect effects of oil and gas development are discussed as follows (Page 84):

...the effects of climate change observed to date and projected to occur in the future include more frequent and intense heat waves, longer fire seasons and more severe wildfires, degraded air quality, more heavy downpours and flooding, increased drought, greater sea-level rise, more intense storms, harm to water resources, harm to agriculture, ocean acidification, and harm to wildlife and ecosystems.

In addition, the Marietta EA included quantitative analyses of greenhouse gases (GHG) impacts. Best available science was used to approach the greenhouse gas emissions calculation for the Marietta EA: "Life cycle greenhouse gas emissions of Marcellus shale gas (and associated supplementary data) (Jiang et al., 2011) was used as the basis for estimating GHG emissions from the preproduction phase of potential oil and gas development in the Marietta Unit" (Page 85). As it relates to Ohio, the Marietta EA states that: "Ohio's Natural Gas and Crude Oil Exploration and Production Industry and Emerging Utica Gas Formation Economic Impact Study estimated that the average amount of natural gas per the life of a natural gas well is 5 billion cubic feet (bcf) (Kleinhenz & Associates 2011)" (Page 90). "Using...U.S. EPA combustion emission factors for natural gas (see Appendix E) allowed BLM to compare combustion emissions to those calculated for this EA" (Page 93).

The Marietta EA also discloses calculation assumptions were disclosed (Page 87):

Disturbance for wellpad approximately 5 acres, approximately 6 wells per wellpad (per the 2006 RFDS), approximately 25 years for the lifetime of a well, use of horizontal drilling and hydraulic fracturing.

Based on the location of the proposed lease, geological formations, and similar construction techniques that would be used if future production was to occur in the Marietta Unit, the preproduction data gleaned from Jiang et al., 2011, is applicable to possible foreseeable mineral development within the Wayne National Forest.

As to post-production impacts, the Marietta EA states (Page 89):

...emissions associated with the post-production phase of development were calculated based on reasonable assumptions and standard emissions factors. Mean emission factors used in this EA for production of natural gas, processing, transmission and storage, distribution, and combustion were provided by Venkatesh et.al. (2011).

The uncertainties regarding development are also discussed in the Marietta EA (Page 93):

There are many factors that affect the potential for GHG emissions estimates at the leasing stage: a lease may not be purchased, so no GHG emissions would be expected; a lease may be purchased but never explored, so again there would be no GHG emissions; a lease may be purchased and an exploratory well drilled that showed no development potential, so minimal GHG emissions would occur; or a lease may be purchased, explored, and

developed. If developed there are notable differences in the potential for emissions related to a wide variety of variables, including the production potential of the well, economic considerations, regulatory considerations, and operator dynamics, to name a few.

The methodology was included step by step within the Marietta EA in pages 90-92.

### ***Cultural Resources***

The Marietta EA adequately addresses cultural resources, and is consistent with all required policy and regulation. The Marietta EA states (Page 113):

There would be no direct impacts to cultural resources/paleontology as a result of leasing as there would be no surface disturbance at this stage. Direct and indirect impacts from reasonably foreseeable future oil and gas development may occur to cultural resources if there is ground disturbance. Any known archeological sites within the leasing area, however, would be avoided and declared NSO to the extent possible in accordance with BLM and USFS policy. If development is proposed, the USFS, as the surface land manager, would conduct site-specific Section 106 compliance measures including surveys, records search, and the appropriate Tribal and SHPO consultation prior to any ground disturbing activities.

....The BLM initiated consultation with the Ohio SHPO under Section 106 of the NHPA, by letter dated November 16, 2015; to date, the SHPO has not responded to the letter, indicating that they have found no adverse effects on historic properties within the scope of the Proposed Action. Further consultation will take place at the APD phase prior to ground disturbing activities.

### ***Not doing an EIS***

Eastern States has satisfied the National Environmental Policy Act (NEPA) requirements analyzing impacts of oil and gas operations necessary prior to offering the Ohio Parcels. In addition, under NEPA an EA may be relied upon without any further environmental analysis when the EA's analysis shows that no significant impacts to environmental resources would occur. A finding of no significant impact does not require that no impacts are identified, rather, no impact may result from adequate regulations and mitigation measures that negate any potential significant impact. The Marietta EA contains adequate mitigating measures to any potential impacts. Therefore BLM can determine based on the analysis included throughout the EA that significant environmental impact would not occur.

### ***Erosion***

The Marietta EA adequately addresses surface resources, and is consistent with all required policy and regulation. The Marietta EA states (Page 103):



The USFS and the BLM will require operators to reclaim disturbed areas as soon as they are no longer necessary, which will reduce the area of disturbed soil remaining after construction, and the BLM requires an operator using private land to have a land use agreement with the private owner, which may detail minimum reclamation requirements. Likewise, operators will be required to submit a drilling and operations plan before an APD is approved, and these plans will be used to ensure that areas that are highly prone to invasion by non-native, invasive species are avoided to the extent practicable. Finally, the stipulations that restrict development on steep slopes will minimize soil erosion, thereby minimizing the area of disturbed soil and the consequent vulnerability to invasion that disturbed soils present

### ***Not enough analysis/EA***

Agencies should avoid preparing lengthy EAs except in unusual cases, where a proposal is so complex that a concise document cannot meet the goals of Section 1508.9 and where it is extremely difficult to determine whether the proposal could have significant environmental effects. Leasing is an administrative action and would not have any direct effects on the proposed area. However, potential impacts are expected as the leases are bid on and developed and those were disclosed and discussed in the Marietta EA.

### ***Public Input***

Per CEQ regulations, scoping is required for the preparation of Environmental Impact Statements, and optional for Environmental Assessments. The meetings held in November 2015 were designed to allow informal information exchange between BLM, the USFS, and the public. The agencies documented the feedback and noted the public issues of interest in the Marietta EA (Section 1.7.4, Page 21). These meetings were described in the Marietta EA (Pages 20-21):

The BLM conducted external scoping for the Proposed Action through a series of public meetings, requesting public comments, and through close coordination and data sharing with the USFS. Public notices appeared in local newspapers including the Marietta Times, Athens Messenger, and the Ironton Tribune for two consecutive weeks starting on November 1, 2015. The BLM also issued a press release to various news outlets on November 2, 2015, notifying the public of dates, times, and locations of the public meetings. Public meetings were held on November 17, 2015 in Marietta, November 18, 2015 in Athens, and November 19, 2015 in Ironton. The primary purpose for those public meetings was to provide information and gather public input regarding issues that the BLM should consider in this EA. At each meeting, the BLM and the USFS provided information regarding proposed oil and gas leasing activities throughout the WNF; displayed maps showing locations of requested leases and DOI-BLM-Eastern States-0030-2016-0002-EA, 21 posters detailing the administrative processes associated with EOIs, leasing, and the NEPA; and answered inquiries regarding the project.

A primary purpose of NEPA is to inform the public about the environmental implications of Federal agency actions before they are made. Therefore, it is BLM policy to offer a 30-day public

comment period on Draft EAs for fluid mineral leasing actions. The public has additional opportunities to be involved in the process when the Marietta EA and Sales Notice is posted for the 30-day protest period. As stated above, Eastern States followed these guidelines for the Marietta EA and December 2016 Lease Sale.

Furthermore, Eastern States complied with applicable CEQ regulations (40 CFR 1503.4), which recognizes several options for responding to substantive comments, including: modifying one or more of the alternatives as requested, developing and evaluating suggested alternatives, supplementing, improving, or modifying the analysis, making factual corrections, explaining why the comments do not warrant further agency response, citing cases, authorities, or reasons to support the BLM's position.

In addition, the CEQ recommends that responses to substantive comments should normally result in changes in the text of the NEPA document, rather than as lengthy replies to individual comments in a separate section (see Question 29a, CEQ, Forty Most Asked Questions Concerning CEQ's NEPA Regulations, March 23, 1981). Therefore, a short response to each substantive comment and a citation to the section or page where the change was made was the method was utilized for the Marietta EA. Similar comments were summarized and responded to as a whole and if the comment did not entail any change to the Marietta EA it was also disclosed within the response matrix developed. This response matrix was attached as Appendix A (Page 158) to the Marietta EA.

## **DECISION**

After a careful review, it has been determined that all of the protested Lease Sale Parcels described in the December Sale Notice may be offered at the December Lease Sale. The protests to all Lease Sale Parcels are denied for the reasons described above.

You may appeal this decision to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and the attached Form 1842-1 (Attachment 2). If you file an appeal, your notice of appeal must be filed in the BLM Eastern States Office, 20 M Street SE, Suite 950 Washington, D.C. 20003, within 30 days from receipt of this decision. You have the burden of showing that the decision appealed from is in error.

If you wish to file a petition (pursuant to regulation 43 CFR 4.21) (request) for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

### **Standard for Obtaining a Stay**

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

- (1) The relative harm to the parties if the stay is granted or denied,
- (2) The likelihood of the appellant's success on the merits,
- (3) The likelihood of immediate and irreparable harm if the stay is not granted, and
- (4) Whether the public interest favors granting the stay.

Please contact Elena Fink (Deputy State Director, Natural Resources) at (202) 912-7730 or Nicole Virella (Planning & Environmental Specialist) at (202) 912-7739 with any further questions or concerns.



Mitchell Leverette  
Acting State Director